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EXAMINER

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Please find below and/or attached an Office communication concerning this application or proceeding.



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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 15

Application Number: 09/673,063
Filing Date: January 04, 2001
Appellant(s): MICHENFELDER ET AL.

KENYON & KENYON
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed August 12, 2002.

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(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

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(2) *Related Appeals and Interferences*

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Therefore, it is presumed that there are none. The Board, however, may exercise its discretion to require an explicit statement as to the existence of any related appeals and interferences.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

No amendment after final has been filed.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is correct.

(7) *Grouping of Claims*

Appellant's brief includes a statement that claims 20-41 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

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(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

5,661,303	Teder	8-1997
5,560,245	Zettler et al.	10-1996
6,191,531	Reime	2-2001
4,701,613	Watanabe et al.	10-1987
4,871,917	O'Farrell et al.	10-1989
5,225,669	Hasch et al.	7-1993

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

2. Claims 20-24,27-29,38,41 are rejected under 35 U.S.C. 102(e) as being anticipated by Teder ('303).

Claim 20

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Teder ('303) discloses a housing (Fig. 3, Ref. 28) including a light conducting element (Fig. 2, Ref. 24) forming a cover of the housing (Col. 6, lines 24-28); and a plurality of optical and electronic components mounted in the housing including at least one transmitter (Fig. 3, Ref. 56) for transmitting an electromagnetic wave and at least one receiver (Fig. 3, Ref. 58) for receiving the electromagnetic wave, the measuring distance influencing a wave propagation between the at least one transmitter and the at least one receiver such that when a coating forms on the windshield, an output signal sensed by the at least one receiver is changed (Col. 7, lines 38-42; Col. 9, lines 12-19).

Claim 21

The reference of Teder ('303) further discloses that the rain sensor is used in a motor vehicle (Col. 6, lines 31-34).

Claim 22

Teder ('303) further discloses the coating is a result of wetting by precipitation (Col. 9, lines 12-19).

Claim 23

The reference of Teder ('303) further discloses the light conducting element (Fig. 2, Ref. 24) forms a base plate (Fig. 2, Ref. 42) of the housing (Fig. 3, Ref. 28) and includes a broad area of connection with the windshield (Fig. 3, Ref. 18) (Col. 6, lines 34-41, 52-57).

Claim 24

Teder ('303) further discloses a common printed board (Fig. 3, Ref. 26) on which is mounted the plurality of optical (Fig. 3, Ref. 56, 58) and electronic (Fig. 3, Ref. 80A, 80B, 80C) components in accordance with SMD technology (Col. 7, lines 34-38).

Claim 27

The reference of Teder ('303) further discloses that the rain sensor is cemented (Col. 6, lines 40-41) to an inside of the windshield (Col. 6, lines 29-45).

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Claim 28

Teder ('303) further discloses a transparent film (Fig. 2, Ref. 36) that is self-adhesive on each side thereof and corresponds to a connection between the windshield and the light conducting element (Col. 6, lines 40-45).

Claim 29

The reference of Teder ('303) further discloses that the output signal is provided to a downstream analysis circuit (Fig. 3, Ref. 80A, 80B, 80C, 80D) and includes information with respect to an instantaneous degree of wetting of the windshield (Col. 8, lines 35-51; Col. 9, lines 12-18).

Claim 38

Teder ('303) further discloses that the light conducting element includes optical areas formed from transparent plastic for at least one receiver (Col. 6, lines 46-54).

Claim 41

The reference of Teder ('303) further discloses the light conducting element (Fig. 2, Ref. 24) includes integrated lens structures (Fig. 2, Ref. 38, 40) for light bundling (Col. 6, lines 52-64).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 25, 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teder ('303) as applied to claim 24 above, and further in view of Zettler et al. ('245).

Claim 25

Teder ('303) substantially teaches the claimed invention except that it does not show an integrated connector for an electrical connection to a downstream analysis unit. Zettler et al. ('245) shows that it is known to provide an integrated connector (Fig. 3, Ref. 46) for an electrical connection to a downstream analysis unit (Col. 3, lines 5-13) for a remote connection sensor. It would have been obvious to combine the device of Teder ('303) with the integrated connector of Zettler et al. ('245) for the purpose of providing signals to turn-on a wiper assembly when moisture is detected on the windshield. It is obvious to one skilled in the art to know that the motor assembly of Zettler et al. ('245) would have some sort of analysis unit to determine when to turn-on or turn-off the motor assembly, therefore the reference of Zettler et al. ('245) reads on applicants claim.

The reference of Teder ('303) further discloses that the housing (Fig. 3, Ref. 28) corresponds to a rectangular-shaped sensor housing (See Figure 3).

Claim 26

Teder ('303) substantially teaches the claimed invention except that it does not show contact pins through which the printed circuit board is connected to the integrated connector. Zettler et al. ('245) shows that it is known to provide contact pins (See Fig. 3) through which the printed circuit board (Fig. 3, Ref. 42) is connected to the integrated connector (Fig. 3, Ref. 46) (See Fig. 3) for an external connection to a sensor. It would have been obvious to combine the device of Teder ('303) with the contact pins of Zettler et al. ('245) for the purpose of providing signals to turn-on a wiper assembly when moisture is detected on the windshield.

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5. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Teder ('303) as applied to claim 29 above, and further in view of Reime ('531).

Claim 30

Teder ('303) substantially teaches the claimed invention except that it does not show at least one of a windshield wiper mechanism and a vehicle lighting system is activated as a function of the output signal. Reime ('531) shows that it is known to provide a windshield wiper mechanism and a vehicle lighting system is activated as a function of the output signal (Col. 3-4, lines 25-14) for an integrated optical sensor system. It would have been obvious to combine the device of Teder ('303) with the windshield wiper mechanism and a vehicle lighting system of Reime ('531) for the purpose of providing compact construction when two different conditions are being measured.

6. Claims 31, 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teder ('303) as applied to claim 20 above, and further in view of Watanabe et al. ('613).

Claim 31

Teder ('303) substantially teaches the claimed invention except that it does not show the one transmitter includes at least one LED. Watanabe et al. ('613) shows that it is known to provide at least one transmitter that includes at least one LED (Fig. 1, Ref. 24; Col. 3, lines 67-68) for an optical rain sensor. It would have been obvious to combine the device of Teder ('303) with the LED of Watanabe et al. ('613) for the purpose of providing a long lasting reliable light emitting source when used in a harsh environment.

Claim 32

Teder ('303) substantially teaches the claimed invention except that it does not show a first one of the at least one receiver that detects an optical signal emitted by the at least one LED

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includes a photodiode. Watanabe et al. ('613) shows that it is known to provide a receiver that detects an optical signal emitted by the LED includes a photodiode (Fig. 1, Ref. 25; Col. 4, lines 3-7) for an optical rain sensor. It would have been obvious to combine the device of Teder ('303) with the LED and photodiode of Watanabe et al. ('613) for the purpose of providing a long lasting reliable light receiving element when used in harsh environments.

7. Claims 33, 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teder ('303) as applied to claim 20 above, and further in view of O'Farrell et al ('917).

Claim 33

Teder ('303) substantially teaches the claimed invention except that it does not show the at least one receiver includes at least one ambient light sensor. O'Farrell et al ('917) shows that it is known to provide at least one receiver that is an ambient light sensor (Col. 10, lines 18-25) for a vehicle moisture sensor. It would have been obvious to combine the device of Teder ('303) with the ambient light sensor of O'Farrell et al ('917) for the purpose of providing reference energy levels due to external vehicle light conditions.

Claim 34

Teder ('303) in combination with O'Farrell et al. ('917) discloses the claimed invention except for the at least one ambient light sensor includes an aperture angle of approximately 40 degrees inclined upward with an aperture direction in a direction of travel. It would have been an obvious matter of design choice to angle the aperture at 40 degrees, since applicant has not disclosed that having the aperture at 40 degrees solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the 25 degree aperture (Col. 7, lines 3-6) disclosed in O'Farrell et al. ('917).

8. Claims 35, 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teder ('303) in combination with O'Farrell et al. ('917) as applied to claim 34 above, and further in view of Hasch et al. ('669).

Claim 35

Teder ('303) in combination with O'Farrell et al. ('917) substantially teaches the claimed invention except that it does not show the at least one ambient light sensor is sensitive to ultraviolet light. Hasch et al. ('669) shows that it is known to provide at least one ambient light sensor that is sensitive to ultraviolet light (See Abstract; Col. 4, lines 40-56) for a vehicle moisture sensor. It would have been obvious to combine the device of Teder ('303) in combination with O'Farrell et al. ('917) with the sensitivity to ultraviolet light of Hasch et al. ('669) for the purpose of providing a sensor system that reacts to subsequent changes in the ambient conditions. It is obvious to one skilled in the art to know that the reference of Hasch et al. ('669) is sensitive to ultraviolet light because the optical sensor of Hasch et al. ('669) measures ambient light for a vehicle and therefore would naturally measure sunlight which contains ultraviolet light.

Claim 36

Teder ('303) in combination with O'Farrell et al. ('917) substantially teaches the claimed invention except that it does not show the ultraviolet light corresponds to sunlight. Hasch et al. ('669) shows that it is known that ultraviolet light corresponds to sunlight (See Abstract; Col. 4, lines 40-56) for a vehicle moisture sensor. It would have been obvious to combine the device of Teder ('303) in combination with O'Farrell et al. ('917) with the ultraviolet light of Hasch et al. ('669) for the purpose of providing a sensor system that reacts to subsequent changes in the ambient conditions. It is obvious to one skilled in the art to know that the reference of Hasch et al. ('669) measures ambient light from a vehicle optical sensor, therefore it would naturally measure ultraviolet light which corresponds to sunlight.

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9. Claims 37, 39, 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teder ('303) as applied to claim 20 above, and further in view of Zettler et al. ('245).

Claim 37

Teder ('303) substantially teaches the claimed invention except that it does not show when infrared light is used the light conducting element is formed of a black plastic. Zettler et al. ('245) shows that it is known to provide a molded light conducting element (Fig. 3, Ref. 34, 36) that is formed of black plastic when infrared light is used (Col. 2, lines 56-58) for a moisture activated wipe sensor. It would have been obvious to combine the device of Teder ('303) with the conducting element of Zettler et al. ('245) for the purpose of providing filtered light to a detector so as to prevent other wavelengths from being sensed. It would be obvious to one skilled in the art to know that the color molded plastic (Col. 2, lines 56-58) of Zettler et al. ('245) which passes infrared light would be a black color so as to block the primary colors of light.

Claim 39

Teder ('303) in combination with Zettler et al. ('245) disclose the claimed invention except for the light conducting element includes a plastic part formed according to a two-color injection molding process. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Teder ('303) in combination with Zettler et al. ('245) with the two-color injection molding process since it was well known in the art that lenses or filters are manufactured in a injection mold process according to the type of wavelengths to be filtered because it reduces the amount of optical element in a compact sensor system. A typical injection molded filter would be found on a regular infrared TV remote control, which are typically black.

Claim 40

Teder ('303) in combination with Zettler et al. ('245) discloses the claimed invention except for the light conducting element is formed by combining two single-color plastics. It

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would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Teder ('303) in combination with Zettler et al. ('245) with the two single-color plastics since it was well known in the art that combining two single-color plastics provides a low cost to manufacture and reduce the amount of space needed in a optical sensor.

(11) Response to Argument

For the above reasons, it is believed that the rejections should be sustained.

Rejection of Claim 20-24,27-29,38, and 41

Applicant argues the rejection of claim 20 on pages 6-8 that the reference of Teder ('303) fails to disclose or anticipate a housing including a light conducting element forming a cover of the housing as recited in applicants claim 20.

Examiner argues that the reference of Teder ('303) fully anticipates the claimed limitations of applicants claim 20. First in figure 3 of Teder ('303) it shows a housing (28) with a light conducting element (38) forming a cover of the housing (28). It is further shown in figure 2 of Teder ('303) that the light conducting element (38) is part of a base (42) that is a coupler (24), which uses clips (46) to attach to the housing (28), therefore forming a cover of the housing (28) when the coupler (24) is attached to the housing (28). It's the position of the examiner that the coupler (24) of Teder ('303) is clearly shown in figure 2 being attached to the housing (28), therefore forming a cover to the housing and being clearly anticipated in view of applicants claimed limitation. It is further the position of the examiner that since in the abstract that the sensor housing (28) is detachably secured about the outer edges of the coupler that it forms a cover. Further, the definition of "cover" in the Webster's II New Riverside University Dictionary

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defines it as to place something on or over, so as to protect or conceal. Therefore, the coupler (24) with integrated light conducting element (38) forms a cover over the housing (28).

It is then submitted that Teder ('303) discloses each and every element of claim 20 and furthermore, since claims 21-24,27-29,38,41 depend from claim 20 are clearly anticipated by Teder ('303).

Rejection of claim 25 and 26

Applicant argues the rejection of claims 25 and 26 on pages 8-11 that the combination of Teder ('303) with Zettler et al. ('245) fails to disclose the combination of having a downstream analysis unit in stead of having the control unit located with the housing and the optics.

It the position of the examiner that the combination of Teder ('303) with Zettler et al. ('245) shows the use of a connector that sends signals from the sensor to a remote location. Examiner admits that the reference of Zettler et al. ('245) fails to disclose an analysis unit connected to the connector and located downstream of the sensor. It's the position of the examiner that its well known in the art to remotely connect sensors to a analysis unit via a cable connection as shown in the cited art of Hasch et al. ('669) so as to provide the analysis unit in a remote area for protection from environmental conditions. Therefore, it's the position of the examiner that the limitation of claim 25 would not provide an inventive step as to one of ordinary skill in the art. Furthermore, dependent claim 26 would lack an inventive step as being dependent on claim 25.

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Rejection of Claim 30

Applicant argues the rejection of claim 30, that the reference of Reime ('531) is not an effective prior art as applied to the present application.

Examiner agrees with the applicant as to the patent reference of Reime ('531) 102(e) date fails to meet applicants PCT date of January 8, 1999. It is pointed out that applicant failed to disclose this deficiency in the previous responses to the office actions, for which the examiner could of corrected the error in a subsequent office action. Arguments still remain if examiner produces the foreign application 197 48 454 dated November 3, 1997 that it in combination with Teder ('303) reads on the claimed limitations. Examiners position with reference to claim 29 which claim 30 depends on is that since applicant failed to disclose where the downstream analysis circuit is located, one can assume that the circuit is provided in the same enclosure, but away from the optical components as shown in Teder ('303). Therefore, the optical sensor (Fig. 3, Ref. 58) of Teder ('303) producing an output signal in communication with the downstream circuit (processing circuit figure 3, Ref. 80A-80D), which is positioned away from the sensor is inherently produces a downstream circuit and therefore reading on the claimed limitation of claim 29. Therefore, claims 29 and 30 would not produce an inventive step in view of the references.

Rejection of Claim 31 and 32

Applicant argues on pages 13 and 14 that the combination of Teder ('303) and Watanabe et al. ('613) does not disclose that the "light emitting element" is a light emitting diode as recited in claim 31.

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Examiner argues that the combination of Teder ('303) and Watanabe et al. ('613) show as that its known to use light emitting diodes (LEDs). On column 3, lines 67-68 of Watanabe et al. ('613) is shows that its known to use a light emitting element (24) that includes an infrared ray light emitting diode (LED) contained within the bore (20b). Therefore, it would be obvious to combine the reference of Teder ('303) in view of Watanabe et al. ('613) to show that its known in the art to use LEDs for light sources.

It is then submitted that the combination of Teder ('303) and Watanabe et al. ('613) disclose each and every element of claim 31 and furthermore, since claim 32 depends from claim 31 which renders claim 31 as being obvious over Teder ('303) in view of Watanabe et al. ('613).

Rejection of Claims 33 and 34

Applicant argues on page 14-15 that the combination of Teder ('303) and O'Farrell et al. ('917) failed to disclose each feature of claim 33. Applicant argues that O'Farrell et al. ('917) fails to generate a signal dependent on ambient light for automatic light control or for a day/night changeover of the windshield wiper control.

Examiner argues that claim 33 fails to disclose the limitation of generating a signal dependent on ambient light for automatic light control or for a day/night changeover of the windshield wiper control, but only claims "at least one receiver includes at least one ambient light sensor". Examiner's position is that the reference of O'Farrell et al. ('917) clearly discloses at least one ambient light sensor (Col. 10, lines 18-25), therefore reading on the claimed limitation.

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It is then submitted that the combination of Teder ('303) and O'Farrell et al. ('917) disclose each and every element of claim 33 and furthermore, since claim 34 depends from claim 33 which renders claim 34 as being obvious over Teder ('303) in view of O'Farrell et al. ('917).

Rejection of Claims 35 and 36

Applicant argues on page 15-17 that the combination of Hasch et al. (669) fails to disclose a separate ambient light sensor as recited in claim 33 from which claim 35 ultimately depends or that it is operable to detect ultraviolet light.

It's the position of the examiner that claim 33 only discloses at least one ambient light sensor and fails to disclose that the ambient light sensor is separate, therefore the reference of Hasch et al. (669) reads on the claimed limitation. It is further the position of the examiner that since the specification of Hasch et al. (669) fails to disclose any type of filter that filters out unwanted light in the sensor it is therefore assumed that the sensor is measuring a broad spectrum of light including ultraviolet light, therefore reading on applicants claim.

It is then submitted that the combination of Teder ('303), O'Farrell et al. ('917), and Hasch et al. (669) disclose each and every element of 35 and furthermore, since claim 36 depends from claim 35 which renders claim 36 as being obvious over Teder ('303) in combination with O'Farrell et al. ('917) and in further view of Hasch et al. (669).


Rejection of Claims 37,39, and 40

Applicant argues on page 17-18 that the reference of Zettler et al. ('245) does not cure the deficiencies of Teder ('303).

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Examiner argues that the reference of Teder ('303) discloses all the limitations of claim 20 and therefore, the combination of Zettler et al. ('245) further disclose and make obvious the claimed limitations of claims 37,39,40.

Respectfully submitted,




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Conferees



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